of sunspots likewise occurred, of which those of 1837 and 1870 were almost twice as great as the maximum of 1884, whereas those years were not marked by any special volcanic activity. Mr. Verbeek cannot, therefore, see any connection between the activity of the sun and that of the earth in 1883, nor does he believe the position of the earth with respect to the moon and sun had any relation to the great eruption of August. The following is Mr. Verbeek's summary of what the eruption has specially taught us:—

(1) The extraordinary loudness of the sounds deserves, in the first place, our attention. The substances were shot out of the crater with great velocity up to a very considerable height, and this was accompanied with detonations which far surpassed in power all the sounds with which we are acquainted. Never were sounds heard over such a large area of the earth's surface during any previous catastrophe. Some time ago, in the French Academy (*Comptes rendus* du 9 Mars, 1885), the possibility even of the transmission of these sounds through the earth's centre, straight to the antipodes of Krakatão, was suggested. According to a communication from M. F. A. Forel, reports were heard on August 26 on the Island of Caïman-Brac in the Caribbean Sea (south of Cuba, 80° W. long. from Greenwich, and 20° N. lat.). The exact hour is not given; but from the account it appears clearly that the reports were heard in the *daytime.* (The sky was clear. People ran to the shore to see whether a ship was approaching, &c.) For several reasons it does not seem to me very probable that these sounds proceeded from Krakatão. In the first place, at the time of the great eruption in the Straits of Sunda, there appear to have been eruptions near the antipodes, though the details are wanting. In the second place, it is probable, for other reasons, that an earthquake or eruption occurred in or near the Caribbean Sea. Thirdly, the time does not agree; for if, according to M. Forel, an hour be allowed for the transmission of the sound through the earth's centre, which is probably too little, the great detonations of Krakatão could not have been heard at the antipodes in the daytime, but only late in the evening of August 26.

(2) These stupendous detonations caused such violent disturbances in the atmosphere that many objects at long distances from the volcano underwent a corresponding vibration of such intensity as to suggest the idea of an earthquake.

(3) The formation also of an atmospheric disturbance which propagated itself in very long air-waves round the earth's surface is a phenomenon which had not yet been observed in connection with eruptions, though other atmospheric disturbances had been previously understood to have regular wave-motions.

(4) The phenomena of the green and blue sun and moon, and of the beautiful red glow, had been already observed after eruptions, but not with such intensity as after August 1883.

(5) Though the truncated cones of many volcanoes had been previously recognised as the remains of conical mountains which had had their summits flattened by a subsidence of the central part, we have here for the first time witnessed a subsidence which agrees in dimensions with the Tengger in East Java, known to be one of the largest subsided crater areas in the world. The explanation, which was hitherto considered a doubtful one by some on account of the enormous dimensions ascribed to the subsided part, has been entirely confirmed by the catastrophe at Krakatão in 1883.

(6) The almost vertical section of the peak Rakata,[1] accidentally formed by the eruption, has given us a very valuable insight into the internal structure of a volcano. Of course this formation is by no means the same in all volcanic conical mountains; thus for instance in many volcanoes the existence of a hollow space or a compact kernel may be considered probable, though the Rakata section does not exhibit this.

(7) By the subsidence into the sea of part of the peak, waves arose which far surpassed in elevation the biggest ever formed in a storm. To this additional catastrophe, which caused the inundation of the coasts in the Straits of Sunda, the large number of victims of the Krakatão eruption must be attributed.

(8) The propagation of this wave-motion is very remarkable. Not only in the whole of the Indian Ocean, but even in the Atlantic and the Pacific Oceans, disturbances were observed which were caused by the Krakatão wave. Part of the disturbances, however, observed in the state of the water on the coasts of America and Europe, which were originally also attributed to Krakatão, must have had another cause.

(9) It is known that, from the velocity with which the wave-motion is propelled, the medium depth of the sea may be calculated along its path. Upon the route from Krakatão to South Georgia it is found that the rate of velocity is equal to the extraordinary depth of 6340 metres. Over that track there lies to all appearance a deep basin, the probable existence of which will, I hope, be shortly confirmed by deep-sea soundings.

(10) Finally, a very remarkable result of the analysis of the Krakatão ashes deserves mention. These ashes, namely, are the first rocks in which a very great number of plagioclase species of felspar have been found together. While in many rocks of volcanic origin various triclinic felspar species (usually two) had been previously supposed or shown to exist, it was proved for the first time by the analysis of the Krakatão ashes that one rock may contain *all* the plagioclases, from the most basic to the most acid. There appears, besides, a little sanidine. All these felspars are, in this instance, products of the first crystallisation, as the second crystallisation was prevented by the sudden cooling and consolidation of the melted rock magma. Tschermak's theory of felspar finds a fresh support in this simultaneous presence of plagioclases whose specific gravity diminishes gradually from that of pure anorthite to that of pure albite.

That which has been easily proved in this case by the isolated condition of the crystals, we may take as highly probable for many compact andesites, and even for a large number of other eruptive rocks, namely, that among the porphyritic felspars there are a variety of species, which differ in specific gravity, and therefore also in chemical composition.

If on two corresponding rectangular axes, with the specific weights as abscissæ, the analogous quantities of plagioclase which a rock contains are put as ordinates, a number of points are the result, of which the junction gives a curve which may be called the "felspar curve" of the rock. This curve must necessarily take a very different course for the different acid and basic stones. It is a new and interesting task for petrographers to determine the "felspar curve" of the principal eruptive rocks.

THE PLEIADES

IT is a singular circumstance that the oldest-known mode of determining the seasons and directing the recurrent operations of human industry, should also have been the most widely diffused. Nor was this an obvious one. It regarded directly neither of the two great luminaries, which, as they move, might almost be said visibly to pay out a golden cable of time; but turned, instead, to a comparatively inconspicuous, though beautiful and eminently interesting, group of stars. The periodical shiftings in the sky of the sun and moon force themselves upon the dullest apprehension; one must, however, be already something of an astronomer to take any close heed of stellar configurations. Yet all over the world, in the northern and southern hemispheres, amongst Polynesian and Australian savages, as well as under the sway of Egyptian, Peruvian, Mexican, early Hellenic, and Indian civilisations, traces are found of a primitive calendar regulated by the risings and settings of the so-called "Seven Stars."[1]

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[1] The old name, of which Krakatão is a corruption, and which is still given to the peak itself.

Only 6 Pleiades, indeed, are usually visible, although 12, 14, even perhaps 16, have been made out without optical aid by exceptionally keen and vigilant observers. Hipparchus is probably the only astronomer of antiquity who mentions the possibility of discerning a seventh member of the family; and he admits that it could be seen only under a transparent sky and in the absence of the moon. Thus Ovid's well-known line in reference to the group,—

> "Quæ septem dici, sex tamen esse solent,"—

quite correctly describes its ordinary visual aspect. Nevertheless, it figures as septuple in the folk-lore of well-nigh all the peoples of the globe, from the Baltic to the Tropic of Capricorn; and the aborigines of Victoria, no less than Greek poets, have sought, by appropriate inventions, to reconcile what was apparent with what was assumed. It is altogether uncertain whether the story of the "lost Pleiad" is a tradition or a myth,—whether it commemorated an actual prehistoric occurrence, or merely supplied by fable the unit wanting to complete a consecrated number. There is no manner of doubt, however, that it is cosmopolitan and immemorially antique. Before dismissing it as an idle fancy, it may be worth while to inquire into the probability of a real loss of lustre in an originally manifest companion of Alcyone.

The spectroscope affords some grounds for a *primâ facie* presumption *against* marked variability in these associated stars. With one or two quite insignificant exceptions, they all shine with the bluish-white radiance, and display the brilliant spectrum obscured only by hydrogen-absorption, of which steadfast emission is usually the concomitant. Usually, but not invariably. There are noted instances to the contrary, which further experience may perhaps multiply. It is, at any rate, certain that perplexing anomalies have hitherto been found to affect photometric estimates of the Pleiades.

Very little reliance can in general be placed upon early accounts of relative stellar brightness; yet it is startling to find that Ptolemy enumerates four individuals of the group, none of which can be identified with its now pre-eminent member. Either, then, his description is strangely misleading, or Alcyone was not, 1750 years ago, the *lucida* of the collection. Francis Baily, who well knew how to make allowance for ancient inaccuracy, considered that this star, if observed at all by the Alexandrian astronomer, must then have been of far less magnitude than now (*Memoirs R. Astr. Soc.*, vol. xiii. p. 9). Further, Abdurrahman Sûfi, who professed, in the tenth century, to have corrected, from personal observations, the catalogue of his predecessor, expressly states that Ptolemy's quartette were re-specified by him as being the most conspicuous of the Pleiades (Flammarion, "Les Étoiles," p. 294). But Alcyone, as we have seen, was certainly not amongst them. The leading position it still occupies was first, some six centuries later, assigned to it by Tycho Brahe. That there have been fluctuations of lustre among its attendant stars has, by the recent inquiries of Wolf and Lindemann, been rendered certain in a few cases, and highly probable in many more. Room for doubt on the point will presumably ere long be narrowly limited. By means of his "wedge photometer," invented for the special purpose of introducing harmony into the light-measurements of the Pleiades, Prof. Pritchard has accumulated materials for future comparisons, vouched for as trustworthy by the satisfactory agreement between his estimates of magnitude and those arrived at by Profs. Lindemann and Pickering. In the meantime there is sufficient authentic evidence of variability in the group to render the literal explanation of the disappearance of the seventh daughter of Atlas a plausible one.

The oldest existing map of the Pleiades was constructed by Maestlin in 1579. It deserves attention as a curiosity of archæological astronomy, and as exhibiting eleven stars, discerned, of course, with the naked eye.[1] Galileo made the first telescopic survey of the group, of which he detected, with his feeble instrument, nearly 50, and graphically recorded the positions of 36 components. De la Hire, Cassini, and Jeaurat followed, the last mapping and cataloguing at the École Militaire, in 1782, 64 leading Atlantids (*Mémoires de l'Ac. des Sciences*, 1779, pub. 1782, p. 505). In publishing, in 1841, differential measures, with the Königsberg heliometer, of 52 of these stars (*Astr. Nach.*, No. 430)—besides Alcyone, the place of which was fixed by observations in the meridian—Bessel had another end in view than mere enumeration. He designed to establish a term of comparison from which their mutual displacements might hereafter be determined. And, in fact, the prospect of gaining some real knowledge of such displacements would be still remote, were it not for this anticipatory labour. Dr. Gould was the first to turn it to account. He obtained, it is true, only a negative result, but one memorable as the earliest in sidereal science derived from the use of a method then in its infancy, but now, within a score of years, grown to be of overwhelming importance.

With an object-glass 11 inches in diameter, corrected for the ultra-violet rays, Lewis M. Rutherfurd, of New York, took, in 1865, some admirable photographs of the Pleiades (*Observatory*, vol. ii. p. 16). One of them, now in the possession of the Royal Astronomical Society, remarkably exemplifies the capabilities of the old collodion-process. The time of exposure is not known, but was probably short, since there is scarcely a trace of irradiation, and the stellar impressions are minute and beautifully distinct. They are thus peculiarly susceptible of exact measurement. The right ascensions and declinations of nearly fifty Pleiades, hence deduced by Gould, showed so close an agreement with Bessel's, as to make it fairly certain that no appreciable change in their relations had taken place within a quarter of a century.

This conclusion was somewhat modified by the results of M. C. Wolf's laborious investigation at Paris ten years later (*Annales de l'Observatoire*, t. xiv. 1877)—probably the last aiming at exhaustiveness for which merely visual data will furnish the materials. His chart includes all stars down to the 14th magnitude, to the number of 625, contained in a rectangle 135′ by 90′, in which Alcyone occupies a nearly central position. Of these, 571 are catalogued, while the places of 79 are determined with the utmost nicety, and compared with those assigned at Königsberg. The upshot went to show unmistakably a community of backward drift, reflected from our own advance through space. Alcyone has a well-marked, though small, proper motion, in a direction exactly opposite to that of the solar translation. The invariability of relative situation in its crowd of companions, inferred by Gould in 1866, hence really amounted to a demonstration of the existence of a physical tie between them. For it proved that the whole cluster was pursuing an identical line of march in the sky. Even though that march be purely a parallactic effect, the force of the argument remains untouched. Unanimity in apparent movement implies a real aggregation equally with unanimity in rapid actual progress.

Other, and if possible more cogent, proofs of the close relationship of these clustered stars are now, however, gradually becoming available. The presence of minute displacements connected with the internal economy of the system, emerged pretty clearly from Wolf's inquiries; although their direction and amount remained little more than conjectural. The main fact indicated is that of an extraordinary complexity in the governing plan of the assemblage. It appears to embrace a great number of binaries, and at least one triple star, which pursue their separate revolutions independently of the higher systemic relations which no doubt bind and sway them. Each of the pairs, for instance, numbered 9, 10, and 31, 32, on Bessel's list, gives signs of orbital movement; while the beautiful little triangle of 8th-magnitude stars close by Alcyone is (seemingly) in slow process of deformation.

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[1] See R. G. Haliburton's "Festival of the Dead," and Bunsen's "Die Plejaden und der Thierkreis."

[1] For a map by Miss Airy of 12 Pleiades from ocular view see *Monthly Notices*, vol. xxiii. p. 175.

Fresh evidence was deduced from a set of elaborate measurements of forty stars in the Pleiades, completed by Prof. Pritchard in 1884. To fourteen amongst the number, two independent processes were found applicable. Meridian observations extending over 130 years afforded, when reduced, the means of ascertaining their absolute co-ordinates and proper motions; and these were compared with the results of micrometrical determinations of relative position at Königsberg, Paris, and Oxford, 1838 to 1880. Both methods agreed in pointing to certain shiftings *inter se*, just, as it were, nascent, and demanding a further lapse of time for the development of the scheme they are conducted upon. Enough, however, was made out to show plainly that no mere incongruities of proper motion, or perspective displacements consequent on change in our own point of view, were concerned, but real effects of gravitative action amongst a group of mutually connected bodies.

Thus at last we seem to be on the verge of learning something of the interior mechanism of a star-cluster, the extraordinary difficulty of the problems presented by which has hitherto almost silenced speculation. The facilities for collecting the necessary data offered by the recent enormous improvements in stellar photography, will doubtless help to stimulate the inquiry, as well as to assure its conclusions.

Our readers are already familiar with the first results in photographic star-charting secured by means of an apparatus constructed (as to its optical part) by MM. Paul and Prosper Henry, and mounted in the garden of the Paris Observatory in April 1885. These have been followed by four photographs of the Pleiades, taken respectively on November 16, December 8 and 9, and January 8, of surpassing beauty and interest. The exposure was in each case of three hours, during which long period the following of the diurnal movement appears to have been absolutely perfect. No mechanism is adequate to effect this with the requisite nicety; the eye and hand of the operator are an indispensable adjunct. An 11½-inch telescope, adapted for visual use, inclosed in the same metallic tube with a photographic object-glass 13½ inches in diameter, serves accordingly as a channel of communication with the sky, through which the progress of the operation is surveyed, and timely notice derived of the need for controlling incipient inequalities.

On the plates thus exposed, above a thousand stars—all presumably belonging to the same magnificent cluster—are clearly imprinted. They range down to the 17th magnitude, many of them being beyond the power of any telescope hitherto constructed to disclose to the eye. But the retentive "photographic retina" has time on its side. Such extraordinary success in registering the faintest objects necessarily implies considerable over-exposure in regard to bright ones. It is indeed found that the time of *pose* for a star of the sixteenth is no less than *one million times* than for one of the first order of lustre (MM. Henry, *La Nature*, December 5, 1885). This disparity constitutes perhaps the most serious drawback to the photographic method of charting. It has, however, the counterbalancing advantage of supplying tolerably accurate indications of magnitude in the varying size of the stellar disks.

The importance of these remarkable pictures is one which the lapse of centuries must tend to heighten. They will place future astronomers in possession of documentary evidence of ever-growing value. Their historical function, however, does not stand alone. They have also unexpectedly served the purpose of present discovery. A small nebula of a spiral form, encircling the 5th-magnitude star Maia, of which no visual trace had ever been perceived, comes out with surprising intensity on all four plates. It consists of a single whorl resembling a strongly-curved cometary train, and extends on one side so as to involve a minute adjacent star, which might be thought to play the part of a secondary nucleus. The configuration recalls the tendency to a duplicate structure visible in the great spiral in Canes Venatici, as well as in other similar formations. The photographic strength, in proportion to the curious optical weakness of the new nebula, suggests that its rays are situated mainly in the upper part of the spectrum, and that it is of a gaseous constitution. Spiral nebulæ conform to no fixed rule in this respect. The first recognised and most striking member of the class (that in Canes, 51 Messier) emits continuous light, while several others show bright lines. Amongst these would most probably be found the specimen just discovered, were it possible to submit its feeble light to analysis. This probability is greatly strengthened by Mr. Lockyer's recent detection in the spectrum of Maia of bright lines, as yet, however, undetermined in regard to position.

Photographic discovery led the way to, and was quickly followed by, visual detection. On February 8 Admiral Mouchez communicated to the Paris Academy of Sciences a telegram from M. Struve announcing that the Maia nebula had just been successfully observed with the 30-inch Clark achromatic recently mounted at Pulkova. This promising *début* by the largest refractor yet constructed, encourages the hope that the limit of useful size has not yet been reached.

The singular vortex round Maia is not the only nebula in the Pleiades. At Venice, on October 19, 1859, M. Tempel, who had then lately exchanged his profession of an engraver for that of an astronomer, discovered an extensive nebulosity of an elliptical form, encompassing, and stretching southward from, the star Merope. The history of its subsequent observation is not a little curious. Unaccountable discrepancies have perplexed the evidence of its existence. Some of the finest instruments in the world have persistently refused to disclose it, while at times it has been plainly visible with glasses too insignificant to serve as their finders. Messrs. Hough and Burnham have uniformly failed to perceive it with the great Chicago refractor. Prof. Pritchard, during the whole course of his assiduous study of the group, has never detected a nebulous indication connected with any of the stars composing it. D'Arrest only succeeded in seeing it in 1862 after two years of fruitless searching, and considered it the faintest object he had ever viewed with the 11-inch Copenhagen refractor (*Astr. Nach.*, No. 1393). Nevertheless Schiaparelli, February 25, 1875, found it to extend past the star Electra as far as Celæno, and gave it as his opinion that it was a striking object in a clear sky (*Astr. Nach.*, No. 2045). The late Dr. Schmidt, of Athens, had no doubt at all of its variability. Mr. Lewis Swift, of Rochester (N.Y.), on the other hand, who, unaware that it existed, "ran upon it" accidentally in 1874, watched it carefully during seven years without perceiving a sign of change (*Monthly Notices*, vol. xlii. p. 107). Its presence is to him palpable. A 2-inch aperture with a power of 25 suffices to reveal it. M. Tempel himself has always seen it in its original form. Mr. Maxwell Hall, in Jamaica, has never looked for it in vain with his 4-inch achromatic. Schönfeld described it as "very distinct and immediately conspicuous" (Tempel, *Monthly Notices*, vol. xl. p. 622).

The truth seems to be that, whether variable or not, it is one of the most sensitive objects in the sky. The slightest haze suffices to obliterate it. Air so translucent as to allow 13th or 14th magnitude stars to shine clearly may still contain mist enough to shroud the Merope nebula. Nor will it endure high magnification. Its scanty rays need to be condensed into a small image to become sensible, while, in the restricted field of a great telescope, they are apt to leave the eye unaffected for want of a contrasted black background. Even the enormous light-grasp of the Rosse reflector was unavailing to show this delicate object until the lowest possible powers were applied. Idiosyncracies both of instruments and observers have besides tended to widen divergences of opinion. Some eyes appear to be incapable of discerning an illumination so faint and diffused. Nay, telescopes of equal apertures are not perhaps devoid of "personality" regarding it.

Still more difficult to explain than its anomalous invisibility, are the differences in its aspect when seen. Goldschmidt made the supposed discovery in 1863 (*Les Mondes*, t. iii. p. 529) that it was no isolated formation, but a spur or projection inwards from a vast nebulosity 5° in diameter, in which a blank central space similar to that left clear for the trapezium in the Orion nebula, was occupied by the entire group of the Pleiades. And Wolf, after careful consideration, adopted this view in 1876. Other observers have seen several distinct patches in lieu of the large misty ellipse, about 35′ by 20′, in which M. Tempel could just distinguish the beginnings of two nuclear condensations. Engelmann's map of the Pleiades, published in 1876 (in Bd. ii. of Bessel's *Abhandlungen*), shows a mere nebulous wisp to the south of, and apparently unconnected with, Merope. Two such were observed by MM. Baillaud and André, at Paris, March 7, 1874, and form the regular aspect of the nebula as viewed with Mr. Pratt's 8-inch mirror. Mr. Common's great speculum disclosed to him, February 3, 1880, a triple and considerably scattered group, with unmistakable symptoms of an extension north-west towards Electra. Now at last the camera steps in as arbiter between conflicting observations. The Paris photographs decide at once the Merope nebula to be no such illusory object as has sometimes been supposed. It really exists; but in a shape *at present* strangely varied from that of its earlier appearances. Only its position on either side of the star Merope identifies the irregularly striated formation visible on the plates, with the uniform train of almost evanescent luminosity recorded in M. Tempel's skilful drawings.

Comparison with future autographic pictures will quickly and easily settle the question of its variability. As yet there is little positive, though some presumptive, evidence for the affirmative. Hind's and Chacornac's admittedly variable nebulæ are situated not far off, one in the head, the other near the tip of the right horn, of Taurus. And it is unquestionable that some kinds of sidereal phenomena tend to localise themselves in certain quarters of the sky. There is, moreover, reason to believe that a nebula has vanished from the heart of the cluster itself. Such an object is marked on Jeaurat's chart of the Pleiades (published in 1782) in connection with a pair of small stars numbered by Bessel 31 and 32. These lie about half a lunar diameter north of Pleione, in a quarter where no vestige of nebulosity can now be distinguished; so that the possibility is excluded of Jeaurat's having merely anticipated subsequent discoveries. The stars 31 and 32 form a binary system already giving signs of mutual revolution; and one of them (No. 32) is considered by Lindemann as variable. If any weight attached to Jeaurat's estimates of brightness, there could be no doubt about the matter, since he stated them to be respectively of 7th and 4th magnitudes, while Bessel found them both of the 8th. Jeaurat's authority in photometry, it is true, is of the lowest; yet it is hard to believe that his eye can have represented to him a difference of three whole orders between two equal stars, visible side by side in one field of his telescope.

Stellar fluctuations have so frequently been observed to be associated with nebulous surroundings, that it is worth noting, as at least a coincidence, that neither Merope nor Maia is exempt from a strong suspicion of variability. The latter, according to M. Wolf, is slowly gaining lustre; the former oscillates through a range of one magnitude.

The stars of the Pleiades are immeasurably far off. None of them has any sensible parallax; and we are thus uninformed as to their intrinsic lustre, mutual distance, or gravitating mass. It is, however, easy to compute the dimensions of the group relatively to its remoteness from ourselves.[1] A circle described from Alcyone with a radius of 48′ includes all its principal stars. Only one of Bessel's 53 falls outside it. We may then take the globular mass of the cluster to be of this apparent size, disregarding the stellar streams external to it as being, more or less, outliers. Now, since the sine of an angle of 48′ is to radius as (in round numbers) 1 : 71, it follows that the furthest of the suns congregated into the nuclear group under consideration, are just 71 times as distant from us as from the centre of their own system. Consequently, Alcyone blazes upon them with 5000 times the lustre it displays to us, or as a star about 86 times the brilliancy of Sirius. It would still, however, seem a star rather than a sun. Even from the distance of Neptune, our own central luminary must outshine Alcyone, as viewed, say, from Atlas or Taygeta, fully 77,000 times.

The glimpse afforded by recent investigations of the structure of the Pleiades group is a very surprising one. We find in it a miniature sidereal system, the richness and variety of which bewilder theoretical conceptions, and recall, as analogous, the accumulated wonders of the Magellanic clouds. Nebulæ are discovered in most intimate connection with lucid stars, and in suspicious relations to their luminous vicissitudes, while themselves possibly subject to strange alternations of visibility. Stars of all orders are included in one vast assemblage, some doubtless magnificent orbs, of many times the radiance of our sun; others as inferior to them perhaps as the moons of Mars to Jupiter. The distribution of these bodies appears to be no less varied than their size. Groups are collected within the main group, systems revolve apart, the subordination of which to the laws of a general federative union leaves their internal liberty of movement unshackled. It is not, indeed, certain that a dynamical equilibrium of the whole subsists. Hints of a centrifugal tendency have been caught by M. Wolf, suggesting that an impulse of separation may at present be the predominating one. Possibly, then, Mr. Stone's curious observations on the slowly divergent proper motions of some southern stars, apparently the remnants of broken-up systems, may exemplify the inscrutable destinies in store for the unnumbered stars of the Pleiades.

A. M. CLERKE

NOTES

SCIENCE was *en fête* at the Mansion House on Tuesday night, when the Lord Mayor and Lady Mayoress received the Presidents and Members of Council of the Royal and other principal Learned Societies. Everything passed off in the most admirable way, and the presence of about 100 ladies, as well as of 200 of our representative men of science, made the gathering a very brilliant as well as a very remarkable one. The present

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[1] As was done by the Rev. J. Michell in 1767 (*Phil. Trans.*, vol. lvii. p. 257).